<u>In the Claims</u>

1   1. (Currently amended)   A method of communicating over a plurality of different

2   target media each having a protocol, comprising:

3   providing, for each of the plurality of different target media, a plurality of

4   communication element types hierarchically representing different communication

5   elements for the respective protocol,

6   each communication element type being a user-definable data structure that

7   pertains to a particular ~~protocol~~ layer of the respective ~~target medium~~protocol,

8   wherein at least some communication element types relating to higher layers of

9   the protocol include references to one or more communication element types relating to

10   lower layers of the protocol, and

11   wherein the plurality of communication element types are accessible to at least

12   one software program for directing communications over the respective target medium

13   ~~wherein at least one of the plurality of communication element types is included~~

14   ~~by reference in greater than one other of the plurality of communication element types.~~

1   2. (Currently amended)   A method as recited in claim 1, ~~wherein~~ further comprising

2   creating, by one of the software program(s), instances of ~~each~~ one or more

3   communication element types ~~can be created~~ for exchanging data on the respective target

4   medium.

1   3. (Currently amended)   A method as recited in claim 1, ~~further comprising~~

2   ~~defining~~wherein the step of providing comprises defining one or more of the plurality of

3   communication element types responsive to exchanges allowed by the protocol of the

4   respective target medium.

1   4. (Currently amended)   A method as recited in claim 1, further comprising:

2   creating, by one of the software program(s), an instance of at least one of the

3   plurality of communication element types; and

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4   processing each said the-instance of the communication element type for

5   exchanging information on the respective target medium.

1   5. (Currently amended)   A method as recited in claim 1, wherein <u>at least one of</u> the

2   <u>plurality of</u> communication element type<u>s</u> defines a structure for transmitting data over

3   the target medium.

1   6. (Currently amended)   A method as recited in claim 1, wherein <u>at least one of</u> the

2   <u>plurality of</u> communication element type defines a structure for receiving data over the

3   target medium.

1   7. (Original)   A method as recited in claim 1, wherein at least one communication

2   element type is a message type that includes a portion for holding message data

3   associated with instances of the respective message type.

1   8. (Original)   A method as recited in claim 7, wherein the message data has a fixed

2   length.

1   9. (Original)   A method as recited in claim 7, wherein the message data has a variable

2   length.

1   10. (Currently amended)   A method as recited in claim 1, wherein <u>at least one of</u> the

2   communication element type<u>s</u> has a fixed portion that is the same for all instances of the

3   communication element type.

1   11. (Canceled)

1   12. (Original) A method as recited in claim 1, wherein the plurality of communication

2   element types includes at least one message type, and each instance of the message type

3   includes a portion for prescribing timing.

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1   13. (Currently amended)   A method as recited in claim 12, wherein the timing

2   includes a setting for specifying a pre-message gap.

1   14. (Original) A method as recited in claim 12, wherein the timing includes a setting for

2   specifying a pre-word gap.

1   15. (Original) A method as recited in claim 12, wherein the timing includes a setting for

2   specifying a begin message timeout.

1   16. (Original) A method as recited in claim 12, wherein the timing includes a setting for

2   specifying a trailing gap.

1   17. (Currently amended)   A method of structuring communications over a

2   communication medium having a known protocol, comprising:

3   providing a plurality of ~~at least one user-definable~~ communication element types

4   for representing communication elements at~~at least one~~ different layers of ~~a generalized~~

5   ~~communication model~~the protocol, each communication element type having a user-

6   definable structure that pertains to a corresponding layer of the protocol;

7   in a software program, creating an instance of ~~the~~at least one of the plurality of

8   ~~user-definable~~ communication element types; ~~and~~

9   varying at least one characteristic of the instance in the software program; and

10   operating the software program to direct communications over the

11   communications medium according to the instance with the varied characteristic and to

12   determine a susceptibility of equipment operatively connected to the ~~target~~

13   communication medium to the varied characteristic.

1   18. (Previously presented) A method as recited in claim 17, wherein the at least one

2   characteristic includes a timing characteristic.

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1   19. (Currently amended)   A method of creating an interface with a communication
2   medium having a protocol, comprising:

3   creating a plurality of user-definable communication element types for
4   representing communication elements at different layers of a generalized communication
5   the protocolmodel, wherein at least one of the plurality of communication element types
6   is included by reference in greater than one other of the plurality of communication
7   element types;

8   saving the plurality of at least one user-definable communication element types in
9   a computer readable format that can be accessed for communicating over the medium;

10   accessing the saved communication element types by a software program;

11   and

12   instantiating, via the software program, one or more of the plurality of
13   communication element types to create one or more specific instances of communications
14   over the communication medium; and

15   operating the software program to run the one or more specific instances of
16   communications over the communications medium.

1   20. (Previously presented)   A method as recited in claim 1,

2   wherein the plurality of user-definable communication element types include
3   message types, word types, and field types,

4   wherein at least one message type includes a reference to at least one word type,
5   and

6   wherein at least one word type includes a reference to at least one field type.

1   21. (New)   A method as recited in claim 4, further comprising creating multiple
2   instances of one of the plurality of communication element types.

1   22. (New)   A method as recited in claim 21, further comprising processing each of the
2   multiple instances for exchanging information on the respective target medium.

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1   23. (New)   A method as recited in claim 17, wherein the software program is a test

2   program for testing equipment connected to the communication medium, the method

3   further comprising creating multiple instances of one of the plurality of communication

4   element types in the test program.

1   24. (New)   A method as recited in claim 23, further comprising, , varying

2   characteristics of each of the multiple instances created in the test program in different

3   ways.

1   25. (New)   A method of communicating over a target medium having a protocol,

2   comprising:

3   providing a plurality of communication element types for representing different

4   communication elements of the protocol, each of the plurality of communication element

5   types being a user-definable data structure that pertains to a particular layer of the

6   protocol,

7   arranging the plurality of communication element types hierarchically, with at

8   least one communication element type relating to a higher layer of the protocol including

9   a reference to at least one communication element type relating to a lower layer of the

10   protocol,

11   accessing at least one of the plurality of communication element types by a

12   software program; and

13   directing communications, responsive to the accessed communication element

14   type(s), over the target medium using the software program.

15   26. (New)   A method of communicating over a target medium having a protocol,

16   comprising:

17   providing a plurality of message types and word types for representing

18   communications using the protocol, each of the plurality of message types and word types

19   being a user-definable data structure;

20   arranging the plurality of message types and word types hierarchically, with at

21   least one message type including a reference to at least one word type;

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1   accessing at least one of the plurality of message types and word types by a
2   software program; and

3   directing communications, responsive to the accessed message type and/or word
4   type over the target medium using the software program.

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